

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 10 (canceled)

11. (new) An engine of an internal combustion type comprising:

a two-stroke engine having a cylinder with a movable piston, that defines a combustion chamber;

an intake port in communication with environmental air and an exhaust port wherein said intake port and said exhaust port are disposed so that during piston movement said intake port is open after said exhaust port has opened following combustion in said combustion chamber and said intake port is closed before said exhaust port is closed by piston movement; and

a retro-tube attached to said exhaust port wherein said retro-tube is of approximately constant diameter and having a volume approximately equal to a swept volume of said piston movement in said cylinder.

12. (new) The engine as in claim 11 wherein:

a plenum chamber having a diameter approximately equal to the diameter of said retro-tube is in communication with an exhaust end of said retro-tube at a retro-tube port;

said plenum chamber having an exhaust tube port opposed said retro-tube port that is at least the same diameter as said retro-tube and an exhaust receiver tube attached at said exhaust tube port; and

said plenum chamber having an air tube port approximately orthogonal to a center line of said retro-tube and said exhaust tube port.

13. (new) The engine as in claim 12 wherein a secondary air tube is attached to said air tube port.

14. (new) A method for operating an engine of an internal combustion two-stroke type having a cylinder with a movable piston that defines a combustion chamber comprising:

a) forming an intake port in said cylinder communicating with said engine external environment and said cylinder interior, disposed for the motion of said piston to open said intake port after the opening of an exhaust port following internal combustion in said combustion chamber;

b) opening said exhaust port after approximately 25 to 35 degrees of rotation of a crank shaft of said engine after internal combustion;

c) partially opening said intake port after a substantial portion of the combustion gas has exited said combustion chamber and entered a retro-tube attached to said exhaust port;

d) filling said combustion chamber through said intake port with environmental air drawn into the combustion chamber and the retro-tube by a reduced pressure condition caused by the exiting of said combustion gas;

e) fully opening said exhaust port after approximately 180 degrees of rotation of said crank shaft after internal combustion;

f) partially closing said exhaust port after approximately 200 degrees of rotation of said crank shaft after internal combustion and said exhaust gas exiting said retro-tube prior to said exhaust ports closing;

g) reversing flow of gas in said retro-tube subsequent to said exhaust gas exiting said retro-tube for environmental air to enter said retro-tube at an exhaust end to flow into said combustion chamber through said exhaust port;

h) fully closing said intake prior to closing of said exhaust port to allow further environment air to flow into said combustion chamber through said exhaust port; and

i) closing said exhaust port to allow compression by said piston of gases in said combustion chamber prior to combustion of said gases.